Reel # 264
Krementulo, Yu. V.

FD-1667

USSR/Electricity - Regulation

K'REMENTULO, Yu. V.

Card 1/2   Pub. 10-3/11

Author   : Nadzhafov, E. M.; Abdullayev, A. A.; and Krementulo, Yu. V. (Moscow)

Title   : Experimental investigation of the self-excited oscillations in the
             internal circuit of a pneumatic regulator

Periodical : Avtom. i telem., Vol. 16, 27-42, Jan-Feb 1955

Abstract   : The authors describe procedure and results of an experimental investigation
             of the internal circuit of the pneumatic regulator type 04. They point out
             the influence of hydraulic resistance and capacity of the feedback line,
             its coefficient of amplification (quantity proportional to the range of
             throttling), capacity at regulator output, supply pressure, regulator's
             output pressure, diameter of the nozzle of regulator's secondary relay,
             all namely upon the frequency and amplitude of self-excited oscillations
             and upon the character of the course of transient processes. They indicate
             the possibility of applying the self-excited oscillatory regimes of the
             pneumatic regulators for improving the transient process. Three references:
             V. L. Lossiyevskiy, Principles of automatic regulation of technological
             processes (in Russian), Oborongiz (Defense Press), 1950. V. V. Solodovni-
             kov, "Frequency method of analyzing the quality of automatic regulation
             systems," Osnovy avtomaticheskogo regulirovaniya (Principles of automatic

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Card 2/2

regulation), editor V. V. Solodovnikov, Mashgiz (Machine Press), 1954.
V. V. Petrov and G. M. Ulanov, "Stabilization of nonlinear servomechanisms,"
ibid.

Institution : --

Submitted : June 16, 1954

KREMENTULO, Yu. V.   (IAT AN SSSR)

"Construction of Electropneumatic Transformers."

report presented at the Scientific Seminar on Pneumo-Hydraulic Automation,'
28-29 May 1957, at the Inst. for Automation and Remote Control (IAT), Acad. Sci. USSR

Avtomia i Telemekhanika, 1957, Vol. 18, No. 12, pp. 1140-1150, (author
SEMIKOVA, A. I.)

SOV/102-58-4-2/11

AUTHOR: Ivanenko, V.I., Krementulo, Yu.V., and Pushchalovs'kiy,A.D.

TITLE: An Automatic Regulator for the Anticorrosion Potentials
            of Gas Mains

PERIODICAL: Avtomatika,   1958, Nr 4, pp 19-26 (UkrSSR)

ABSTRACT: The system uses a two-stage electronic amplifier followed
            by magnetic amplifiers to keep the potential of the pipe
            at a preset value. The steady-state and transient
            response characteristics are given. Graphs from which the
            regulator may be adjusted to work with a steady-state
            error below a set limit are also presented. The system
            has been tested for four months on the Rusheva-Kiev main
            gas line.
            There are 9 figures and 4 references, 2 of which are
Card 1/1   Soviet, 1 Ukrainian and 1 collection of translations from
            foreign periodicals.

ASSOCIATION: Instytut elektrotekhniky AN URSR
            (Electro-technical Institute, Ac.Sc. Ukr.SSR)

KREMENTULO, YU. V.

28(1)   PHASE I BOOK EXPLOITATION   SOV/2702

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki.
Seminar po pnevmogidravlicheskoy avtomatike. 1st, Moscow, 1957. [Sbornik]

Sistemy, ustroystva i elementy pnevmo- i gidroavtomatiki: [sbornik v...]
(Pneumatic and Hydraulic Circuits Devices, and Elements in Automation; Collection of Papers) Moscow, Izd-vo AN SSSR,
1959. 233 p. Errata slip inserted. 2,500 copies printed.

Resp. Ed.: M. A. Ayzerman, Doctor of Technical Sciences, Professor;
Ed. of Publishing House: A. A. Tal'; Tech. Ed.: T. P. Polyakova.

PURPOSE: This collection of papers is intended for scientific research workers and engineers in the field of design and construction of pneumatic and hydraulic equipment and accessories for automation.

COVERAGE: This collection contains papers read at the Seminar on Pneumatic and Hydraulic Devices for Automation, May 28, 1957. The collection is divided into the following three groups: 1) pneumatic devices, 2) pneumatic and hydraulic devices, including regulating units, transmitters and transducers, actuating mechanisms, special-purpose devices, and auxiliary equipment and 3) elements of pneumatic and hydraulic devices for automation, such as controlled and permanent nozzles and diaphragms. No personalities are mentioned. References follow each of the papers.

Podgoretskiy, M. L., and E.M. Braverman [Moscow]. KShchA Three-Component Regulating Unit   30

Dvoretskiy, V.M. [Moscow]. Small-size Hydraulic Regulating Unit, IAT AN SSR   57

Zasdataler, S.M., and V.A. Bukhtin [Moscow]. Problems in Constructing Primary Instruments -- Differential Pressure Transmitter With Pneumatic Force Compensation.   61
This paper is a theoretical discussion of differential transmitters dealing with their sensitivity, errors, and reliability.

Krementulo, Yu. V. [Moscow]. Electropneumatic Transducers. IAT AN SSSR   77

Dmitriyev, V.N. [Moscow]. Static Characteristics of a Pneumatic Relay With Constant Pressure Drop in Nozzles   86
This paper discusses the static characteristics of a back-pressure type pneumatic relay with indicators that are not sensitive to minute gap changes.

Zasedatelev, S.M. and V.A. Bukhadze [Moscow]. Differential Pressure Transmitters with Pneumatic Force Compensation (Review of Non-Soviet Designs)   91

LamMay, V.P. [Moscow]. General-purpose Hydraulic Power Servodrive   99

Arkhangel'skiy, A.P. Hydraulic Universal Variable-speed Transmission [GMP]   103
This paper describes an axial-piston variable-speed transmission. Its technical specifications and fields of application are discussed.

Babushkin, S.A. [Leningrad]. Equations for a Stabilizing System With a Hydraulic Actuator Connected With a Control Device by Hydraulic Main Lines   112
Equations of the motion of the actuator piston and elements of the control device are given. Design examples are presented.

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S/102/59/000/02/007/01.

16.9500

AUTHOR: Krementulo, Yu. V.

TITLE: "Tortilla-2", a Cybernetic "Turtle"

PERIODICAL: Avtomatika, 1959, Nr 2, pp 81-87 (UkrSSR)

ABSTRACT: This device is a development of Walter's "turtle"; it reacts to light, sound, obstacles, and state of its batteries (it seeks the charger when they are run down). Its memory has sufficient capacity to accommodate a conditioned reflex. The construction is fully illustrated by the figures. (Model 1 is described in 'Radio', 1958, Nr 3). There are 3 figures and 4 references, 3 of which are Soviet and 1 translated from English into Russian.

ASSOCIATION: Instytut elektrotekhniky AS UkrSSR (Electrical Engineering Institute, AS UkrSSR)

SUBMITTED: January 20, 1959.

Card 1/1

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KREMENTULO, Yu, inzh.

Adventures of "Tortila-2." Znan. ta pratsia no.4:20-21 Ap '59.
Znan. ta pratsia no.4:20-21 Ap '59.   (MIRA 12:10)
                    (Cybernetics)

KREMENTULO, Yu.V. (Kiyev)

Electro-pneumatic transducers designed by the Institute of Automation and Telemechanics of the Academy of Sciences of the U.S.S.R. Avtom.i telem. 20 no.2:211-219 F'59. (MIRA 12:3)
(Automatic control) (Transducers)

AUTHOR: Krementulo, Iu. V. (Kyyiv)

TITLE: On the conditions of absolute invariance for open-
                loop impulse systems

PERIODICAL: Avtomatyka, no. 2, 1960, 3-19

TEXT: The author defines the conditions of invariance as those
which are imposed on the dynamical equations of the regulation
system and on fundamental disturbances, with which the error of
the system is identically equal to zero, if at the moment of ap-
plying the disturbance the system is in a state of equilibrium.
The case of open-loop impulse systems is considered, and it is
shown that, by employing the conditions of invariance it is poss-
ible to synthesize a circuit of interpolators for program control
systems. Various examples of synthesis are considered. A system
of automatic control working from an interpolator is considered.
It is shown that with a polynomial law of interpolation it is not
necessary to employ special differentiators of the input signal

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On the conditions of absolute ...

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in order to improve the dynamic properties of the system. The effect of introducing derivatives of the input signal may be obtained by means of appropriate changes in the structure (algorithm) of the interpolator, and in certain cases it is sufficient to make appropriate changes in the coefficients of the interpolating apparatus. Further examples are then considerd. There are 16 figures and 23 references: 20 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows. T.W. She, T.F. Calvert: Short-time memory devices in closed-loop systems, "Application and Industry", no. 21, 1955; D.F. Ford, T.F. Calvert: The application of short-time memory devices to compensate a design, Transactions of AIEE, pt II, 1954; H. I. Finden, B.A. Horlock: Inductosyn and its applications, "Journ, British Inst. Radio Engineers", v. 17, no. 7, July, 1957.

ASSOCIATION: Instytut elektrotekhniki, AN UkSSR (Electrotechnical Institute, AS UkrSSR)

SUBMITTED: January 28, 1960

Card 2/2

S/102/60/000/002/008/008/XX
D251/D304

AUTHORS: Koval's'kyy, M.V., Krementulo, Yu. V., Reuts'kyy, V.
              Yu., and Shihov, B.O.

TITLE: A system of digital programming control of a milling
              machine with power step motors

PERIODICAL: Avtomatyka, no. 2, 1960, 81-83

TEXT: The article describes a bi-coordinate system of digital pro-
gramming control for power step motors which was constructed in
the Instytut elektrotekhniky AN URSR (Electrotechnical Institute
of the AS UkrSSR). Details of the motor are given by B.O. Sihov
(Ref. 1: Avtomatyka, no. 1, 1959). The program was written on
punched type and is read off by a transmitter which works in syn-
chronism with a linear interpolator. In the program are indicated
the sign and quantity of the displacement with respect to the co-
ordinates. The working of the system is possible both as an inter-
polator and as an intermediate memory. The programming scheme is
constructed in the form of two separate blocs. In the first bloc

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D251/D304

A system of digital ...

are the reading device, a ferrite-transistor computor and its feed.
The overall dimensions of the bloc are 300x300x500 mm. In the sec-
ond bloc is the power scheme of computation of the step motor; the
overall dimensions being 300x500x800 mm. There are 2 figures and
3 Soviet-bloc references.

ASSOCIATION: Instytut elektrotekhniky AN URSR (Electrotechnical
               Institute of the AS UkrSSR)

SUBMITTED: February 25, 1960

Card 2/2

KULIK, V.T. [Kulyk, V.T.]; KREMENTULO, Yu.V.

Review of IA.Z. TSypkin's book "Theory of Pulse Systems."
Avtomatyka no.3:93-95 '60.   (MIRA13:10)
        (Pulse techniques (Electronics))
                (TSypkin, IA.Z.)

27136
S/102/61/000/004/002/004
D274/D302

$16.8000\ (1121, 1031, 1344, 1329)$

AUTHOR: Krementulo, Yu.V., (Kyyiv)

TITLE: New form of non-absolute invariance condition for program control systems

PERIODICAL: Avtomatyka, no. 4, 1961, 21-34

TEXT: A new form of invariance condition is considered which per-mits reducing the error to an arbitrarily small value ε. The error is reduced by the method of changing the time-scale of the program. By using a variable (non-linear) time scale, the output program $\psi(t)$ can be transformed into another, $\psi_1(t)$. The change in time scale can be either rigid, or depend on the input parameters (velo-city, acceleration, error) of the system. First, the simple case is considered of a time scale which is constant throughout the en-tire working cycle of the system; ($\omega_0 = \text{const} \neq f(T)$). The system is described by expression

$$\varphi(p) = \frac{b_3(p)}{a_3(p)}\psi(p) = W(p)\psi(p), \tag{9}$$

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New form of non-absolute invariance...

where $W(p) = b_3(p)/a_3(p)$ is the transfer function of the system with respect to the error. With a change in time scale $t = T/\omega_o$, one obtains

$$\varphi_1(p) = \omega_o W(p) \psi(\omega_o p) = W(p) \psi_1(p). \qquad (11)$$

where $\varphi_1(p)$ is the system error (with the new time-scale) and $\psi_1(p) = \omega_o \psi(\omega_o p)$. In certain cases $\psi_1(p)$ can be represented in the form

$$\psi_1(p) = f(\omega_o) \psi(p). \qquad (12)$$

In such cases, the error $\varphi_1(t)$ for the new program changes (at any given moment of time) by a factor of $f(\omega_o)$ with respect to the error $\varphi(T)$; thereby the error variation does not depend on the properties of the system (i.e. on $W(p)$), being determined by $\psi(T)$ only. An example is given which shows how a change in the time scale reduces the error by half. The majority of functions, however, cannot be represented by Eq. (12). Further, the error is considered for a system where Eq. (12) does not hold. Expanding the error φ in a finite series, and effecting a change of time scale, one reaches

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New form of non-absolute invariance...

the conclusion that by a change in time scale (by the factor ω_o), the "position" error remains unchanged, the velocity-error decreases by ω_o, the acceleration error by ω_o^2, etc. On variable time scales, assuming $\omega_o(T)$ as given, the relationship between t and T is derived:

$$t = \int_{T_o}^{T} \omega_o(T)dT + t_o.$$ (25)

Other formulas are derived which show that the variable time-scale ω_o is nothing else but the rate of program input. As regards the variable time-scale $\omega_o = f(T)$, an example is given illustrating the use of a variable time-scale. This example shows that the smaller t_1 ($0 \leqslant t < t_1$), the smaller the deviation from absolute invariance. The measure of deviation of the process from the ideal process, i.e. the measure of non-absolute invariance is given by

$$\varphi(p)-\varphi'_{1displ}(p)=\frac{k\tau}{p(\tau p+1)}-\frac{k\tau}{t_1 p^2(\tau p+1)}(1-e^{-pt_1})=\frac{k\tau}{\eta(\tau p+1)}\left(1-\frac{1-e^{-pt_1}}{pt_1}\right)$$ (33)

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New form of non-absolute invariance...

(τ being related to the steady-state error). Systems with a variable time-scale are then examined. In the foregoing example, the time scale changed in accordance with a rigid program. There are systems, on the other hand, where the time scale changes as a function of input- and output parameters in accordance with the expression: $\omega_0 = k(p)\psi$ or $\omega_0 = k(z)\psi$. The operators $k(p)$ and $k(z)$ ought to be minimized, i.e. the problem reduces to choosing the optimum values of the operator coefficients, proceeding from a suitable quality criterion. The following criteria can be used: 1) the mean-square error for a given fixed time; b) the time of carrying out the program for a given mean-square error; c) the maximum of the absolute error for a fixed time; d) the time for carrying out the program for a given maximum of absolute error. On the dynamical equation of a system with a variable time-scale, for an open-loop system, the following equation is obtained:

$$\varphi_1(p) = W(p)L\left\{\psi\left(\omega_{01}t + \int_0^t k(p)\varphi_1(t)dt\right)\right\}, \tag{37}$$

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New form of non-absolute invariance...

In the general case, Eq. (37) cannot be solved. In the following, linear approximations to Eq. (37) are considered which makes it possible to estimate the equilibrium of the system in the small, (it is assumed that the operator $k(p)$ is a linear differential operator). In order to find the stability conditions of the system, $\psi(T)$ is expanded in a series, of which only the first term is retained; thereupon the characteristic equation of the system is derived (which yields the equilibrium conditions). Two examples are given. With regard to transient processes in a first-order system, ($\omega_o \neq$ const), a system with the following program is considered:

$$\psi(T) = \begin{cases} \dfrac{A}{T_1} T & \text{for } 0 < T < T_1 \\[2mm] A - \dfrac{A}{T_2 - T_1} (T - T_1) & \text{for } T_1 < T < T_2 \\[2mm] 0 & \text{for } T_2 < T \end{cases} \quad (45)$$

Three cases are discussed: a) ω_o linearly dependent on the error, b) - on the absolute error, c) ω_o depending on the squared error.

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New form of non-absolute invariance...   D274/D302

It is shown that a time scale which depends on the squared error is most convenient. There are 5 figures and 3 Soviet-bloc refer- ences.

SUBMITTED: March 15, 1961

Card 6/6

KOVAL'SKIY, Nikolay Vladimirovich; KREMENTULO, Yuriy Vasil'yevich; REUTSKIY, Vadim Yefimovich; SIGOV, Boris Alekseyevich; IVAKHNENKO, A.G., red.; KOVAL'CHUK, A.V., red.; GUSAROV, K.F., tekhn. red.

[Numerical programmed control] TSifrovoe programmnoe upravlenie [By] N.V.Koval'skii i dr. Pod red. A.G.Ivakhnenko. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1962. 124 p.
(MIRA 15:3)

1. Chlen-korrespondent Akademii nauk USSR (for Ivakhnenko). (Machine tools--Numerical control)

16.8000 (1031,1132,1329)

AUTHOR: Krementulo, Yu. V. (Kiyev)

TITLE: Invariance condi ions for closed loop sampled-data systems

PERIODICAL: Avtomatyka, no. 1, 1962, 35-44

TEXT: The author tries to establish the conditions of absolute invariance for closed-loop sampled-data systems and to establish the specific properties of invariant systems. The system considered is one with a single-on-off element and continuous input feedforward and disturbance feeback. The method of analysis is as follows: Using the fundamental theorems of D-transformation the Laplace transformation of the considered coodinate is determined and knowing the expression for the equation of the coordinate x (or for the system error ε), the conditions of absolute invariance are obtained by putting $x(q)=0$ for a stabilizing system and $\varepsilon(q)=0$ for the follow up or programmed systems. The physical meaning of the condition of absolute invariance of the given sampled-data system means that the x-coordinates, obtained both owing to the direct effect of disturbance and

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Invariance conditions for ...

to compound feed forward, are equal to zero. It is also shown that a
closed-loop on-off system with one on-off element may be absolutely in-
variant with respect to the given form of the signal. These conditions
of absolute invariance depend both on ψ and f (f-disturbance effect,
γ - input effect). The invariance conditions for sampling intervals are
determined next. Since in general, they also depend on f and ψ, to make
them independent of ψ and f - fictitious coordinates $\frac{m}{K_1} X(q)$ and $\frac{1}{K_2} \xi(q)$

are introduced and conditions of invariance for sampling intervals are
obtained therefore not for the controlled coordinate $X(q)$ and error $\xi(q)$
but for the fictitious coordinates. This makes it possible to determine
the transfer functions of compound feeds which would satisfy the condition
of invariance for both sampling intervals and coordinates x and ξ. It is
concluded that in the case of a system with a non-ideal, real on-off ele-
ment the method of connection of switching elements and the transfer
functions of compound feeds remain the same, the only condition required
being that the switching elements work in synchronization and produce pul-
ses of the same form as the basic on-off element. There are 4 figures and

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Invariance conditions for ...

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D201/D303

11 references: 10 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: F. Tou, Digital Compensation for Control and Simulation, Proc. IRE, v. 45, no. 9, 1957.

SUBMITTED: September 30, 1961

Card 3/3

KOZUBOVSKIY, S.F. [Kozubovs'kyi, S.F.]; KREMENTULO, Yu.V. (Kiyev)

The Second All-Union Conference on the Theory of Invariance and Its
Application in Automatic Control Systems held in Kiev during May
29,- June 1, 1962. Avtomatyka 7 no.5:70-73 '62.   (MIRA 15:11)
    (Kiev--Congresses) (Automatic control--Congresses)

KUNTSEVICH, V. M.; KREMENTULO, Yu. V.

"Invariancy Theory for Self-Adjusting (pulse) Systems."

Paper to be presented at the IFAC Congress held in
Basel, Switzerland, 27 Aug to 4 Sep 63

VORONOVA, L.I. (Kiyev); KREMENTULO, Yu.V. (Kiyev)

Schematic of a system for converting an angle of rotation into impulses sensitive to the direction of the rotation. Avtomatyka 9 no.3:54-57 '64 (MIRA 17:7)

VORONOVA, L.I. (Kiyev); KREMENTULO, Yu.V. (Kiyev)

Converters of discrete magnitudes to continuous ones using
alternating current. Avtomatyka 8 no.6:81-83 '63.
(MIRA 17:8)

L 30110-65   EWT(d)/EWP(1)   Po-4/Pq-4/Pg-4/Pk-4/P1-4   IJP(c)   GS/BC

ACCESSION NR: AT5004127   S/0000/64/000/000/0356/0366   47
                                                                          B+1

AUTHOR: Krementulo, Yu. V.

TITLE: Conditions of invariance for closed pulse systems

SOURCE: Vsesoyuznoye soveshchaniye po teorii invariantnosti i yeye primeneniyu v
avtomaticheskikh sistemakh. 2d, Kiev, 1962. Teoriya invariantnosti v sistemakh
avtomaticheskogo upravleniya (Theory of invariance in automatic control systems);
trudy soveshchaniya. Moscow, Izd-vo Nauki, 1964, 356-366

TOPIC TAGS: invariance theory, automatic control system, digital computer, servo-
system, linear differential equation

ABSTRACT: This article investigates pulse systems with compounding and correcting
connections as well as analogous continuous systems. Both the general characteris-
tics of these two different classes of systems and their specific peculiarities are
explained. The author first determines the equations of multiloop pulse systems
in operator form. He then examines pulse systems with continuous compounding con-
nections. An automatic control system is examined which is written in operator
form by a system of linear equations. From this, the author determines the con-
dition of absolute invariance and the conditions of invariance for discrete moments

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ACCESSION NR: AT5004127

of time. From the equations obtained he finds the transfer functions of continu-
ous compounding connections. The author concludes with an examination of pulse
systems with pulse-continuous compounding connections. Orig. art. has: 4 fig-
ures and 36 formulas.

ASSOCIATION: None

SUBMITTED: 24Sep64   ENCL: 00   SUB CODE: IE, DP

NO REF SOV: 008   OTHER: 001

Curd 2/2

L 38726-66   EWT(d)/EWP(1)   IJP(c)

ACC NR: AP6013099   SOURCE CODE: UR/0102/66/000/002/0003/0007

AUTHOR: Voronova, L. I. (Kiev); Krementulo, Yu. V. (Kiev)

ORG: None

TITLE: A new method for determining the dynamic characteristics of automatically
controlled members

SOURCE: Avtomatyka, no. 2, 1966, 3-7

TOPIC TAGS: dynamic system, simulation test, analog computer, first order differential
equation, second order differential equation, algebraic equation, *INTEGRATION*

ABSTRACT: The authors discuss three types of methods for determining the character-
istics of dynamic systems: 1. the statistic method; 2. methods dealing with
integration of differential equations by terms; 3. adjustable models. The second
method is considered by the authors. It is assumed that a dynamic system is described
by the linear differential equation

$$\sum_{i=0}^{n} a_i \frac{d^i y(t)}{dt^i} = x(t) + \sum_{j=1}^{m} b_j \frac{d^j x(t)}{dt^j}.$$

This expression may be used to determine any unknown coefficient when others are known.
Certain difficulties are encountered which are related to the necessity of different-

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ACC NR: AP6013099

iating the input x(t) and the output y(t) signals of the system. This difficulty can be eliminated by n-fold integration of the expression over the range t-τ, t. It is obvious that this method is useful for determining a large number of coefficients a_1, b_j. For the case where it is necessary to determine k coefficients, integration of this expression (n+k-1) times gives a system of algebraic equations with respect to the unknown coefficients. Three methods are given for expansion of this expression into a system of (n+m+1) equations: 1. n-fold integration of the expression for (n+m+1) equal intervals; 2. increasing the multiple of integration of the differential expression from n to 2n+m with invariant limits of integration; 3. n-fold integration of the differential equation for (n+m+1) intervals of a given length. Systems of equations are given for each one of these three cases. The proposed method for determining the coefficients is used for members which are described by certain nonlinear ordinary and partial differential equations. The method is also applicable to multi-dimensional members. Experimental verification of this method was carried out on an MNB-1 type analog device for members described by the first and second order differential equation. The coefficients for those types of elements are given. Orig. art. has: 4 figures, 6 formulas.

SUB CODE: 12/   SUBM DATE: 17Jun65/   ORIG REF: 000/   OTH REF: 004

Card 2/2

L 04989-67   EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)   GD
ACC NR: AT6016437   (A)   SOURCE CODE: UR/0000/65/000/000/0165/0184

AUTHOR: Kuntsevich, V. M.; Krementulo, Yu. V.

ORG: none

TITLE: The theory of invariance of pulsed and self-adjusting pulsed systems

SOURCE: International Federation of Automatic Control. International Congress. 2d, Basel, 1963. Diskretnyye i samonastraivayushchiyesya sistemy (Discrete and adaptive systems); trudy kongressa. Moscow, Izd-vo Nauka, 1965, 165-184

TOPIC TAGS: self adaptive control, self organizing system, automatic control theory, nonlinear automatic control system

ABSTRACT: This is a comprehensive study of the problem of invariance in pulsed systems. Until recently the theory of invariance has been widely used only for ordinary systems of continuous action control. Since self-adjusting systems are a special class of nonlinear systems the introduction of compounding connections with respect to perturbations makes it possible both to improve quality and to extend the stability regions of these systems. Methods of analyzing and constructing pulse systems, enabling errors to be eliminated may serve as the basis for constructing control systems of substantially greater accuracy than present ones. In their

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ACC NR: AT6016437

exposition, the authors make the following limitations and assumptions: (1) synchronous AM pulsed systems, (2) pulse repetition interval is constant, (3) pulse element has ideal character- istics, (4) equations are recorded in their variations, and (5) initial conditions are zero. The paper deals with pulsed systems (equations of multicircuit pulsed systems, pulse systems with continuous and with discrete compounding connections, and pulsed-continuous compounding systems) and extremal pulsed systems (systems without compounding connections, invariance of extremal control systems with indirect compounding connections), giving four examples of different types of systems. Orig. art. has: 71 formulas and 6 figures.

SUB CODE: 09/ SUBM DATE: 29Sep65/ ORIG REF: 021/ OTH REF: 010

/3/

Card 2/2

ACC NR: AT6034740   SOURCE CODE: UR/0000/66/000/000/0082/0101

AUTHOR: Voronova, L. I.; Krementulo, Yu. V.

ORG: none

TITLE: A new method of determining the characteristics of complex dynamic systems

SOURCE: AN UkrSSR. Slozhnyye sistemy upravleniya (Complex control systems). Kiev, Naukova dumka, 1966, 82-101

TOPIC TAGS: dynamic system, linear differential equation system

ABSTRACT: Among the numerous methods of determining the characteristics of systems from data on their normal operation there is a class of methods based on direct integration of differential equations. This article proposes a new method: the method of integrating a sliding band. The applicability of the method to complex systems which may be described by linear differential equations is examined. Before proceeding to its analysis the authors dwell on a brief description of existing methods in this class. It is concluded that the method of repeated integration of a sliding band makes it possible to determine the degree of the differential equation of the linear dynamic systems and the numerical value of its coefficients. The method is applicable to defining the characteristics of linear systems with variable parameters. Additive noise whose average value in the $(t-\tau, t)$ range in zero introduces no errors into the

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ACC NR: AT6034740

coefficients which are being determined. All that the states discussed may be applied
to complex linear systems with several inputs and outputs. In the sliding (or moving)
interval (t-τ, t) the current time is represented by t, while τ is a constant. All
systems treated may be described by the following equation:

$$\sum_{i=0}^{n} a_i \frac{d^i y(t)}{dt^i} = \sum_{j=1}^{m} b_j \frac{d^j x(t)}{dt^j} + x(t), \quad n \geqslant m,$$

where x(t) is the input signal and y(t) is the output signal of the system. This is
integrated n times within (t-τ, t) and the analysis is continued. Orig. art. has: 37
formulas and 8 figures.

SUB CODE: 09, 12/ SUBM DATE: 23Feb66/ OTH REF: 004

Card   2/2

UDOVICHENKO, G. (g.Minsk); KREMER, A. (g.Minsk)

Train and trust. Kryl.rod. 11 no.11:17 N '60.   (MIRA 13:10)

1. Nachal'nik TSentral'nogo aerokluba Dobrovol'nogo obshchestva
sodeystviya armii, aviatsii i flotu Belorusskoy SSR (for Udovichenko).
2. Predsedatel'soveta Belorusskogo TSentral'nogo aerokluba (g.Minsk)
(for Kremer).
         (Minsk--Gliding and soaring)

KREMER, A.V. (Leningrad)

Modifications of composition of peripheral blood in neurasthenia.
Klin.med. 32 no.9:85-89 S '54.   (MLRA 7:12)

1. Iz kafedry fakul'tetskoy terapii (zav. prof. T.S.Istamanova)
I Leningradskogo meditsinskogo instituta imeni akad. I.P.Pavlova.
        (NEURASTHENIA, blood in,
           picture)
        (BLOOD, in various diseases,
           neurasthenia)

KREMER, Aleksandr Yakovlevich, kand. med. nauk; DEMIDOVA, A.M., red.;
BALDINA, N.F., tekhn. red.

[Nocturnal enuresis]Nochnoe nederzhanie mochi. Moskva, Medgiz,
1962. 19 p.   (MIRA 15:12)
                    (URINE—INCONTINENCE)

KREMER, B.

Theoretical discovery in 1865 of the Franz Josef Land. Mor.
flot 15 no.6:27 Je '55.   (MLRA 8:8)

1. Deystvitel'nyy chlen Geograficheskogo obshchestva SSSR.
                    (Franz Josef Land)

KREMER, B. A.,

"How the Existence of Franz Joseph Land was predicted," Chronicles of the North; Yearbook of Historical Geography, History of Geographical Discoveries and Explora- tion of the North) v. 2, Moscow, Geografgiz, 1957. 279 p. (Akademiya nauk SSSR. Kommisiya po problemam Severa).

Editorial Board: Andreyev, A. I., Belov, M. I., Burkhanov, V. F., Yefimov, A. V. (Resp. Ed.), Chernenko, M. B. (Deputy Resp. Ed.) and Shcherbakov, D. I.; Ed.: Vorontsova, A. I.; Tech. Ed.: Kosheleva, S. M.: Map. Ed.: Mal'chevskiy, G. N.

PURPOSE: The book is intended for readers interested in the Soviet Arctic.

COVERAGE: The present volume, the second of a series of three, is a collection of 27 articles by various authors presenting an historical account of the exploration and economic development of the Soviet North.. A small part of the book is devoted to Arctic areas beyond the confines of the Soviet Union. The aim of the book is to contribute to an understanding of the physical geography, cartography, ethnog- raphy, and economy of the Soviet North through a historical survey of these factos. A large number of authors explorers, scientists, travellers, pilots, navigators, etc. are cited.

KREMER, B.A.

Total area and the number of islands in Franz Josef Land. Probl.
Arkt.i Antarkt. no.2:105-106 '60.   (MIRA 13:6)
            (Franz Josef Land)

KREMER, B.A. (Moskva)

"Life and scientific career of E.V.Toll'" by P.V. Vittenburg.
Reviewed by B.A. Kremec. Priroda 50 no. 2:121-122 F '61.
(MIRA 14:2)
(Toll', Eduard Vasil'evich, 1858-1902)
(Vittenburg, P.V.)

KREMER, B.A.

N. G. Shilling and the exploration of the Arctic Ocean. Izv.
Vses. geog. ob-va 93 no.2:171-173 Mr-Ap '61.   (MIRA 14:4)
                    (Shilling, Nikolai Gustavovich, 1828-1910)
                    (Artic Ocean—Discovery and exploration)

KREMER, B.

"The North Pole" by A.F.Laktionov. Reviewed by B.Kremer. Izv.Vses.
geog.ob-va 93 no.3:274-275 My-Je '61.   (MIRA 14:5)
                              (North Pole)
                              (Laktionov, A.F.)

KREMER, B.A.

"Discovery" of the North Pole and Robert Peary. Let. Sev.
3:276-278 '62.   (MIRA 15:8)

1. Glavnoye upravleniye Severnogo morskogo puti.
   (North Pole) (Peary, Robert Edwin, 1856-1920)

KREMER, B.A. (Moskva)

North Pole 1. Priroda 51 no.6:60-65 Jo '62.　　　　(MIRA 15:6)
　　　　(Arctic regions—Drifting ice stations)

KREMER, B.A.

    Arctic in the first volume of the "Concise geographic encyclopedia."
Probl. Arkt. i Antarkt. no.13:131-133 '63.   (MIRA 16:9)
                         (Arctic regions)

KORYAKIN, Sergey Fedorovich, kand. ekon. nauk, dots.; BEN SHTEYL,
Iosif L'vovich, kand. ekon. nauk, dots.; Prinimal
uchastiye: ELLINSKIY, Yu.F., st. prep.; CHRARSHTEYN,
Ye.A., dots., retsenzent; CHERKASOV-TSIBIZOV, A.A., st.
prepod., retsenzent; MILYUKOV, M.A., st. prepod.,
retsenzent; MOZHAROV, N.D., kand. ekon. nauk, retsenzent;
MAKAL'SKIY, I.I., kand. ekon. nauk, retsenzent; KREMER,
B.A., inzh., retsenzent; PETRUCHIK, V.A., kand. ekon. nauk,
red.; GUBERMAN R.L., kand. ekon. nauk, red.; RODIN, Ye.D.,
kand. ekon. nauk, red.; DUBCHAK, V.Kh., inzh., red.;
MARTIROSOV, A.Ye., inzh., red.; FALYUSHKIN, V.A., inzh.,
red.; BELOV, M.I., doktor geogr. nauk, red.; SINITSYN, M.T.,
inzh., red.; KOLESNIKOV, V.G., kand. tekhn. nauk, red.;
ZAMAKHOVSKIYA, A.G., kand. ekon. nauk, red.; KUZ'MIN, T.F.,
inzh., red.; NEMCHIKOV, V.I., kand. tekhn. nauk, red.;
GEKHTBARG, Ye.A., inzh., red.; FILIPPOV, K.D., red.;
KRUGLOVA, Ye.M., red.

[Economics of the merchant marine] Ekonomika morskogo trans-
porta. Izd.2., perer. i dop. Moskva, Transport, 1964.
527 p.   (MIRA 18:1)

KREMER, B.A., pochetnyy polyarnik

    Ivan Dmitrievich Papanin; 1894 - ; on his 70th birthday.
    Meteor. i gidrol. no.12:56-57 D '64   (MIRA 18:1)

KREMER, D.M.

Determining the rated current of a group of oil-field electric-current receivers by means of the spectral decomposition of stationary random functions. Izv. vys. ucheb. zav.; neft' i gaz 8 no.6:38 '65.

(MIRA 18:7)

1. Azerbaydzhanskiy institut nefti i khimii im. M.Azizbekova.

KREMER, G., inzh.

Armor made of liquid. Nauka i zhizn' 28 no.12:21 D '61.
(MIRA 15:2)

(Petroleum conservation)

KREMER, H.

Cohtributions to the processing and heat treatment of spiral springs in band
production.   p. 24.

METALURGIA SI CONSTRUCTIA DE MASINI

Vol. 8, no. 3, Mar. 1956

Rumania

Source: EAST EUROPEAN LISTS   Vol. 5, no. 10   Oct. 1956

KREMER, H. ; SUCIU, I.

Semicontinuous founding of aluminum and its alloys. p. 1076.
Conference on the problem of suing radioactive isotopes in USSR iron metallurgy.
p. 1113.
Czechoslovak exhibition of industrial products. p. 1113.
Conference on welding held at Halle, German Democratic Republic. p. 1115.

METALURGIA SI CONSTRUCTIA DE MASINI. (Ministerul Industriei Metalurgice si
Constructiilor de Masini si Asociatia Stiintifica a Inginerilor si Tehnicienilor
din Romina) Bucuresti, Rumania. Vol. 5, no. 12, Dec. 1958.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 6, June 1959

Uncl

L 33141-66   EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(t)/ETI/EWP(l)   IJP(c)   JD/EM

ACC NR:AP6024571   SOURCE CODE: RU/0017/65/000/003/0135/0138

AUTHOR: Maniu, Al.(Engineer); Kremer, H. (Engineer)

ORG: [Maniu] Polytechnical Institute, Brasov (Institutul Politehnic); [Kremer] "METROM" Works, Brasov (Uzinele "METROM")

TITLE: Manufacture of converter blades

SOURCE: Metalurgia, no. 3, 1965, 135-138

TOPIC TAGS: petroleum industry, petroleum engineering

ABSTRACT: A discussion of the technical conditions and manufacturing technology of converter blades for the oil industry made of AM-63, with emphasis on the methods and conditions used at the Metrom Works of Brasov. Orig. art. has: 4 figures and 1 table. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 13, 05 / SUBM DATE: none

Card 1/1   UDC: 665.54.041.498:66.063

KREMER, I. Ya.

CIRCUITS & CIRCUIT ELEMENTS

"Certain Features of Transients in Tuned Amplifier with Nonlinear Load" by I.Ya. Kremer, Radiotekhnika, No 8, August 1957, pp 59-65.

Tuned amplifiers with specially introduced nonlinear loads are used in receiver with logarithmic amplitude characteristics (logarithmic receivers), which are used in radar stations as a means for increasing the noise rejection and of improving certain other characteristics of the radar receivers. The characteristic features of the transients in such a receiver are the dependence of the signal delay and of the output voltage rise time on the level of the unput signal. This article deals with the effect of these characteristics on the accuracy of radar sets.

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KREMER, L. A.

The Taghil cattle Moskva, Sel'khozgiz, 1949. 340, 2 p. (55-40907)

SF196.R8U78

KREMER, M.

KREMER, M. Stockpiling problems for companies.   p. 15.

Vol. 10, No. 10, Oct. 1956.
TOBBTERMELES
TECHNOLOGY
Budapest, Hungary

So: East European Accession, Vol. 6, No. 2, Feb. 1957

KREMER,   M. A.

USSR/Miscellaneous-Metallurgy

Card 1/1

Authors   :   Kremer, M. A., and Dudoreva, V. N.

Title   :   Determination of the delivery coefficient of pouring-systems (foundry) for steel profile casting

Periodical :   Lit. Preizv. 1, 17 - 23, Jan-Feb 1954

Abstract   :   The work described in this report is only the first attempt to obtain data for the calculation of the delivery coefficient of casting-systems for the casting of steel, not through neutralization of the empirical results of mold-filling or by studying the flow processes of liquid steel in experimental tests but by direct observation of the motion of the liquid (smelted) steel in the mold-channels. Only through further experimentation and development of mathematical methods will it be possible to form a scientific basis for the design of pouring-systems for steel casting. Four references. Table, graphs.

Institution: ....

Submitted :   ....

KREMER, M.A.

PHASE I BOOK EXPLOITATION   899

. Mekhanizatsiya i avtomatizatsiya liteynogo proizvodstva (Mechanization
    and Automatic Control of Founding Processes) [Leningrad]
    Lenizdat, 1957. 224 p. 3,000 copies printed.

Ed.: (title page): Sokolov, A.N.; Ed.: (inside book):
    Yemel'yanova, Ye. V.; Tech. Ed.: Rodchenko, N.I.

PURPOSE: This book is intended for engineers and technical person-
    nel working in the founding industries.

COVERAGE: The book presents experience gained by several Leningrad
    plants in the field of mechanization and automation of metal
    casting processes. It is stated that in total production of
    castings the Soviet Union is catching up with the U.S.A., and in
    production of steel castings the USSR is already leading. Soviet
    production of castings in 1955 amounted to 11 million tons, 2
    million of which were steel castings. No personalities are men-
    tioned. There are 33 references, 29 of which are Soviet, 3 English,
    and 1 German.

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Mechanization and Automatio (Cont.)   :'   899

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Mechanization and Automatic (Cont.)   899

AVAILABLE: Library of Congress (TS 233.S6)

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                                              12-12-58

KREMER, M. A.

28(1);25(1)   PHASE I BOOK EXPLOITATION   SOV/2831

Mekhanizatsiya i avtomatizatsiya trudoyemkikh protsessov v liteynom proizvodstve (Mechanization and Automation of Labor-consuming Processes in Foundry Practice) Moscow, Mashgiz, 1959. 226 p. Errata slip inserted. 6,000 copies printed.

Reviewer: L. M. Svobonikov, Candidate of Technical Sciences; Ed. (title page): G. I. Kobrlyanskiy (Deceased); Ed. (Inside book): A. M. Sokolov, Candidate of Technical Sciences; Tech. Ed.: O. V. Speranskaya; Managing Ed. for Literature on the Technology of Machinery Manufacture (Leningrad Division, Mashgiz): Ye. P. Naumov, Engineer.

PURPOSE: The book is intended for technical personnel in foundries and engineers engaged in the mechanization and automation of industrial processes. It may also be used by students of in- stitutions of higher technical education.

COVERAGE: The book deals with recent achievements in the mechani- zation and automation of time-and labor-consuming operations in foundries. Specific instances of mechanization and automation of foundry processes are described. The material presented in this book is divided into six parts, dealing with the follow- ing subjects: molding materials, mold and coremaking, casting, shakeout of molds, finishing of castings, and special casting methods. Each part consists of a number of technical papers presented by several authors. The application of automation ranges from the incorporation of molds and cores to the mechani- zation and streamlining of specialized casting methods, such as investment casting and the use of shell molds. There are numerous diagrams showing automated and mechanized installations in foundries. Most of the material is based on experiments and work done at the "Krasnyy Aksay" Plant. Some of the methods described appear to be in the experimental stage at that plant. The technical papers published in this book were originally presented at a technical conference of the Soviet machine industry in October 1957. No personalities are mentioned.

18(5,7)
AUTHOR: Kremer, M.A., Engineer   SOV/128-59-7-2/25

TITLE: Simplified Method in Estimating Dimensions of Steel
                 Castings' Risers with Exothermic Lining

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 7, pp 19-21 (USSR)

ABSTRACT: To calculate the growth of volume during work with
                 exothermic materials the heat producing properties
                 of this material have to be established. Commonly
                 the work is done by means of cylindrical ingot molds.
                 However some authors (K. Riemann in "Giesserei" Nr 19
                 1957) suggest also equiangular or oval molds. Their
                 experiments have shown that oval shaped molds are best
                 suited. Abroad (D. Atterton, K.W. Timond in "Foundry
                 Trade Journal", 1959, Nr 1987, 1988, 1990) only open-
                 top molds are used. For their experiments the authors
                 have used such molds too. The tables list the results
                 on the determination of the growth rate (riser) and
                 of the steel casting in connection with the effect
                 of temperature of the exothermic material confirming
Card 1/2   the theory of Riemann (with a few exceptions). The

SOV/12?-5?-?-?/??

Simplified Method in Estimating Dimensions of Steel Castings' Pi-
sers with Exothermic Lining

       theory of D. Atterton and W.T. Edmonds on the meaning
       of the proportion between diameter of the growth and
       the thickness of the casting has not proved to be
       true. There are 2 diagrams, 4 tables, and 6 referen-
       ces, 2 of which are English, 2 German and 4 Soviet

Card 2/2

KREMER,   M.A.

18(0)   SOV/128-59-8-27/29
AUTHOR: Averbukh, N.M.

TITLE: Leningrad Regional Conference on Progressive Foundry
             Practice

PERIODICAL: Liteynoye proizvodstvo, 1959, Nr 8, pp 46 - 48 (USSR)

ABSTRACT: December 8 - 12, 1959 a conference was held in Lenin-
             grad in order to exchange views on progressive foun-
             dry practice. About 700 persons participated. G.V.
             Malakhovskiy, the chief metallurgist of the Lenin-
             grad gradskiy Sovnarkhoz, gave a general
             picture of the foundry industry in the Leningrad economic
             region.. M.M. Vyshemirskiy, the chief metallurgist
             of the Leningrad "Stankolit" plant, spoke about pro-
             gressive methods in preparing cores and casting forms.
             M.A. Kremer, spoke on "New trends in the theory and
             practice of feeding castings". Yu.A. Nekhendzi repor-
             ted on the 3rd Polish Foundry Conference. V.M. Be-
             stopal described characteristics of Czech foundry
             processes. A.D. Goryachev (Kirov plant in Leningrad)
             described a new 200 ton press machine. I.A. Gerasi-

Card 1/5   mov (Kremenchug) reported on precision stamp casting

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Leningrad Regional Conference on Progressive Foundry Practice

in his factory. S.S. Yelistratov (Stalingrad) des-
cribed a vacuum machine for feeding cores. I.T.
Fedorova described a new drying process used for
drying cores. The lectures of M.A. Kremer, K.V. Tol-
stikhina, P.I. Pankin, and P.I. Shportenko concerned
the problems of exothermic mixtures. N.A. Tolpegin
(Kirov plant in Leningrad) spoke about steel castings.
I.A. Shapranov and A.A. Get'man (Scientific Research
Institute) reported on an economic casting method
using iron with a magnesium content; further they des-
cribed a cupola furnace with a two-step heating. Ya.
I. Medvedev (TsNIITMASh) spoke about gas blisters in
castings and methods of elimination. O.A. Kozin
("Krasnoye Sormovo" plant) spoke on the classification
of casting spoilage in manganese steel. P.P. Berg
spoke on "New core materials". I.B. Kumanin (Steel
Institute of Moscow) spoke about "Core materials and
their influence upon castings". M.A. Kremer sugges-
ted the use of bitumin in sandblowing machines. I.V.

Card 2/5   Ryzhkov (Polytechnical Institute of Khar'kov) reported

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Leningrad Regional Conference on Progressive Foundry Practice

on grey iron castings. Prokhoròv ("Krasnoye Sormovo" plant) spoke of using liquid glass in cores for V, Cr, Ni and Mo steel castings. I.V. Gruznykh (Polytechnical Institute in Leningrad) reported about optimum parameters for core-blowing of liquid-glass-cores. P.I. Shportenko said that in the Novokrematorsk plant the removal of liquid-glass-cores was regulated by a dosage of clay, saw dust and waterless colors. S.I. Chernysh gave examples of quick drying mixtures. K.I. Shanskiy (Leningrad Plant for Hoist Transportation Equipment) stated that cupola furnace slag can be used as quick drying mixtures. B.A. Noskov and A.F. Nasapkin (Politechnical Institute of Khar'kov) reported on using of betonite mixtures for cores. V.F. Kryuchkov (Leningrad Mechanical plant) and Ya. V. Zeleranskiy (Machine-Building plant) hold about the transportation of core mixtures. L.M. Mariyenbakh spoke on "Improvement of melting agregates and of melting processes" and proposed using earth-gases for air-warming-machines. P.F. Sabaneyev (Rostsel'mash) spoke about the intention of the

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Leningrad Regional Conference on Progressive Foundry Practice

plant to increase the output of grey iron. A construc-
tive discussion took place after the theoretic lecture
of B.A. Noskov and I.N. Den'gin (Politechnical Insti-
tute of Khar'kov) about the using of earth-gas in the
furnace. Yu. G. Rozenberg and S.I. Tsukerman reported
about the successful use of earth-gas in the furnaces
of KhEMZ. L.N. Korohagina and R. I. Ketcheka discus-
sed the use of such gas in the Rostov radiator plant
and in the "Krasnyy Aksay " plant. On the subject of
improved melting in Red China A.M. Petrishenko reported.
I.I. Shapranova and E.V. Petrova (NII) informed on the
modification of iron with magnesium under pressure.
G.N. Golub spoke about using iron modified with magne-
sium in his plant . G.I. Koshovnik (Politechnical
Institute of Kiyev) reported on the homogenization of
magnesium iron during annealing. M.Ya. Zaslavskiy spo-
ke about the product'on of grey iron at the Nevskiy
Ship Repair Plant. "Increasing the Quality of Castings
from Non-Ferrous metals" was the lecture of A.F. Ko-
lobnev and N.I. Belousov (NII) in which they gave the

Card 4/5   characteristics of the new aluminum alloys (AV 30,

SOV/128-59-8-27/29

Leningrad Regional on Progressive Foundry Practice

AV 300, AMg7A a.o. I.P. Yegorenkov (NIILITMASh) mentioned in his lecture "Ways to Increase Labor Productivity during the cleaning and chopping of Castings", hydraulic methods of cleaning. V.L. Tarskiy (NIILITMASh) spoke about foreign equipment. M.A. Kremer informed on cleaning steel castings with a gas flame and air-arc method. V.M. Svirskiy mentioned the shortcomings of sand-blowing tools. M.Ya. Zaslavskiy (Lengiprorechtrans) introduced a simple hydro-sand-spurl machine. M.V. Bromley (All-Union Scientific Research Institute for Labor Protection VTzSPS) spoke on "Hygiene-Technical Requirements of the Plans and Building of Casting Shops". V.V. Kucheruk from the same institute raised the problem of labor protection during casting in shell-cores and when preparing the cores from the liquid-glass mixtures. O.A. Ratner (Leningrad Institute for Labor Medicine and Labor Hygiene) spoke about the prevention of silicosis. At the end decisions were taken to increase labor productivity.

Card 5/5

PHASE I BOOK EXPLOITATION SOV/3199

Leningrad. Politekhnicheskiy institut

Sovremennyye dostizheniya litiynogo proizvodstva; trudy nauchno-tekhnicheskoy konferentsii (Recent Achievements in Founding: Transactions of the Scientific and Technical Conference of Schools of Higher Education) Moscow, Mashgiz, 1960. 336 p. Errata slip inserted. 4,000 copies printed.

Resp. Ed.: Yu. A. Nekhendzi, Doctor of Technical Sciences; Professor; Eds.: N. G. Girshovich, Doctor of Technical Sciences, Professor, and K. P. Lebedev, Docent; Managing Ed. for Literature on Heavy Machine Building (Leningrad Department, Mashgiz): Ye. P. Naumov, Engineer; Tech. Eds.: Ye. A. Dingoldmnkaya, and L. V. Shchetinina.

PURPOSE: This book is intended for the technical personnel of foundries. It may be used by students of the field.

COVERAGE: This collection of articles discusses problems in founding processes. Individual articles treat the melting of metals and their alloys, mechanization and automation of casting processes, aspects of the manufacture of steel, cast iron, and nonferrous metal castings. No personalities are mentioned. References accompany individual articles.

12. Abramov, P. M. Scientific Research Work of the Department of Founding Machinery and Methods of the Moscow Automechanical Institute 99

13. Averin, M. A. Achievements in Casting Practice in a Fittings and Accessories Plant 105

14. Aksenov, V. A. Full Automation of the Centralized Mixture Preparation in Casting Shops 114

15. Borschikov, Yu. P. Automation of Some Processes in Founding 123

III. MELTING OF METALS

16. Kamratov, I. S. Cupola Melting Process With Oxygen Injection Into the Central Part of the Furnace 128

17. Belikov, N. A. Basic Trends in the Development of the Cupola Process in Metallurgy 140

Card 1/9

KREMER, I. A.

14

PHASE I BOOK EXPLOITATION   SOV/5643

Sokolov, Aleksey Nikolayevich, ed.

Mekhanizatsiya i peredovaya tekhnologiya liteynogo proizvodstva
     (Mechanization and Advanced Processing in Foundries) [Leningrad]
     Lenizdat, 1961. 236 p. 2,000 copies printed.

Ed. : Ye. V. Yemel'yanova; Tech. Ed. : I. M. Tikhonova.

PURPOSE: This collection of articles is intended for technical personnel,
     foremen, and skilled workmen of foundries. It may also be of use to
     staff members engaged in the mechanization of production operations.

COVERAGE: The collection contains articles discussing the experience of
     a number of Leningrad plants and engineering and design organizations
     in mechanizing foundry processes and in applying advanced techniques
     to the manufacture of castings. No personalities are mentioned. Some

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Mechanization and Advanced (Cont.)   SOV/5648

articles are accompanied by references.   References are all Soviet.

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Mechanization and Advanced (Cont.)   SOV/5648

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Mechanization and Advanced (Cont.)   SOV/5648

Kononov, M. N.   Patterns With an Epoxy-Resin Base   220

AVAILABLE: Library of Congress (TS233. S55)

Card 5/5   VK/wrc/bc
                                                      11-15-61

BELOV, Anatoliy Dmitriyevich; KREMER, M.A., red.

[Technology of smelting stainless steels with special industrial and operational properties] Tekhnologila plavki nerzhaveiushchikh stalei s osobymi tekhnologicheskimi i eks-pluatatsionnymi svoistvami. Leningrad, 1964. 28 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Liteinoe proizvodstvo, no.1)

(MIRA 17:7)

L 50190-65   EWT(ä)/EWP(w)/EWA(d)/T/EWP(t)/EWP(ж)/EWP(b)   Pad   IJP(q)
JD/HW/JG
AM5013200   BOOK EXPLOITATION   UR/669.141.25+669.15.194

Kremer, M. A.

Intricate shape casting from alloy steels (Fasonnoye lit'ye iz legirovannykh staley) Moscow, Izd-vo "Mashinostroyeniye," 1964. 226 p. illus., biblio.
2800 copies printed.

TOPIC TAGS: casting, intricate shape casting, low alloy steel casting, medium alloy steel casting, high alloy steel casting, structural steel casting, heat resistant steel casting, wear resistant steel casting, casting production

PURPOSE AND COVERAGE: This book is intended for engineering personnel of foundries, laboratories, and design bureaus. It may also be useful to students of schools of higher technical education specializing in metallurgy. The book outlines the principles of alloying steel designed for intricate-shape casti gs and analyzes the effect of chemical composition, heat treatment, wall thickness and configuration of alloy steel castings on their structure and properties. The properties, use, and specific features of castings made of low-alloy, medium-alloy, and high-alloy structural, stainless, heat-, oxidation-, and wear-resistant steels are discussed at length. There are 337 references, mostly Soviet.

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SUB CODE: MM   SUBMITTED: 03Nov64   NO REF SOV: 238

OTHER: 099

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RAGOZA, V.I., KREMER, M.F.

Management of labor in active tuberculosis [with summary in English].
Akush. i gin. 34 no.5:60-65 S-O '58   (MIRA 11:10)

1. Iz tuberkuleznogo otdeleniya rodil'nogo doma imeni prof. Snegireva
(glavnyy vrach A.A. Dodor; nauchnyy rukovoditel' - prof. M.A. Petrov-
Maslakov).
             (LABOR, compl.
                  tuberc., management (Rus))
             (TUBERCULOSIS, in pregn.
                  labor management (Rus))

KREMER, M. Kh.

SOV/1728

18(0)   PHASE I   BOOK EXPLOITATION

Akademiya nauk SSSR. Institut metallurgii

Sovremennyye problemy metallurgii (Modern Problems in Metallurgy)
Moscow, Izd-vo AN SSSR, 1958. 640 p. 3,000 copies printed.

Resp. Ed.: A.M. Samarin, Corresponding Member, USSR Academy of
Sciences; Ed. of Publishing House: V.S. Khabovskov; and
A.M. Dereze; Tech. Ed.: T.V. Polyakova.

PURPOSE: This book is intended for scientific and technical per-
sonnel in the field of metallurgy.

COVERAGE: This is a collection of articles on certain aspects of
Soviet metallurgy. The book is dedicated to Academician
Ivan Pavlovich Bardin on the occasion of his 75th birthday. The
book is divided into seven parts. The first part consists of
two articles presenting a brief account of the biography and
professional activity of the Soviet metallurgist. It includes an
article by John Chipman, Nicholas Grant, and John Elliott (M.I.T.,
USA) describing their meeting with Bardin in Moscow and his
visit to the United States. The second part consists of three
articles and deals with raw materials and fuels for the Soviet
metallurgical industry. The third part represents the major
portion of the book. It consists of 25 articles dealing with
the various aspects of the metallurgy of pig iron and steel.
The fourth part consists of two articles treating the metal-
lurgy of nonferrous metals. The fifth part consists of three
articles on the forming of metals. The sixth part consists of
eight articles discussing certain aspects of physical metal-
lurgy. The last part deals with general problems in the field
of metallurgy. References are given after each article. No
personalities are mentioned.

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Modern Problems in Metallurgy   SOV/1728

Fedorov, A.V. (Candidate of Geological and Mineral Sciences),
G.I. Sokolov, and K.L. Zhilo (Candidate of Technical
Sciences), and I.I. Gol'tzov (Junior Scientific Assistant,
Metallurgical Institute imeni A.A. Baykov, AS USSR). Effect
of Alkalies on Phase Composition and Viscosity of Primary
Blast Furnace Slags

Military, I.S., I.Ya. Korkennikov, and L.M. Tsylev (Metal-
lurgical Institute imeni A.A. Baykov, AS USSR). Equilibrium
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Oelssner, W.D. (Doctor, Engineer, Corresponding Member of the
East German Academy of Sciences, Berlin). Some Problems
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Lander, E.P., and G. von Struve (Institute of Ferrous
Metallurgy of the Freiberg Academy of Mining). The Problem
of Metallurgical Processes in Low-shaft Furnaces   163

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KIENER, N. Ye., eng.

Plaster of Paris

Experience with the use of water-resisting foamy plaster of Paris. Mul. stroi. tekh. 10, No. 6, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

CHIGIRINSKIY, L.M.; KREMER, P.B.

Experience in the organization of a radiological department
in an inter-district oncological dispensary. Med. rad. 9
no.11:45-48 N '64.   (MIRA 18:9)

1. Volzhskiy mezhrayonnyy onkologicheskiy dispanser
Volgogradskoy oblasti.

KREMER, P.B.

Evaluation of the leucocyte count in radiotherapy. Med. rad. 8
no.4:22-26 Ap'63   (MIRA 17:2)

1. Iz Volzhskogo onkologicheskogo dispansera (glavnyy vrach
L.M.Chigirinskiy).

KREMER, R.

740. TECHNICAL AND ECONOMIC CHARACTERISTICS OF HEAT REGENERATORS. Kremer, R. (Hutnik, (Smelter, Prague), 1956, vol. 4, (9), 265-268). The thermal and economic efficiency of regenerators, particularly for use with open hearth furnaces, are discussed in relation to the most important characteristics of design and operating conditions. The author considers that metal recuperators will gradually displace regenerators.

Kremer, R.

Technical and Economic Characteristics of Recuperators.
R. Kremer. (Hutnik, 1956, 6, (11), 334-320). [In Czech].
The various types of recuperators in use in the metallurgical
industry are discussed from the point of view of thermal and
economic efficiency, and the conditions under which the various
types are most suitable are considered.—F. F.

KREMER, RUDOLPH
RUDOLF

13451* (Czech.) Possibility of Utilization of Heat During the Cooling of Open-Hearth Furnaces Možnosti vyučtí tepla pH chlazení Martinových pecí. Rudolf Kremer. Hutník, v. 7, May, 1957, p. 152-157.

The great quantity of water required, and the large loss of heat in water cooling of open-hearth furnaces is discussed. Replacement of water cooling by an evaporation system with natural and forced circulation. New ways of utilization of heat by using liquids with high or low boiling point.

KREML R, R.

Technical-economic characteristics of boilers using waste gases.

p. 305 (HUTNIK) Vol. 7, no. 9, Sept. 1957,
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

CZECH/34-59-6-11/23

AUTHORS: Kremer, R., Ing and Klika, R., Metallurgical Engineers

TITLE: Discussion of the Paper of Ing. Dr. Vl. Sedláček: "Determination of the Heating Time and its Practical Verification" (Diskuse k článku Ing. Dr. Vl. Sedláčka: Určení doby ohřevu a jeho praktické ověření)

ABSTRACT: Doubts are expressed on the possibility of practical application of the method of calculation suggested by Vl. Sedláček. He does not calculate the heating time but determines which of four selected radiation coefficients correspond most closely to reality. In view of the numerous simplifying assumptions and the used method of experiments, these coefficients cannot be considered as being accurately determined and they can only be applied for calculating the heating time of titanium rods under the conditions pertaining to the particular experiments described in the paper of Sedlacek.

Reply of the author of the original paper, Ing. Dr. Vl. Sedláček.

Card 1/2   It is pointed out that the method described in the

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Discussion of the Paper of Ing. Dr. Vl. Sedláček: "Determination of the Heating Time and its Practical Verification"

        original paper proved satisfactory at VÚK and enabled reducing considerably the heating times of titanium rods not only under experimental conditions but under normal shop conditions for over a year.
There are 5 references, all of which are Soviet (In the author's reply).

ASSOCIATION: VŠB, Ostrava

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Z/034/61/000/004/001/005
E197/E335

AUTHOR: Kremer, Rudolf, Engineer, Candidate of Technical
            Sciences

TITLE: Automatic Control Project for Soaking Pits Based on
            Instant Balance Using a Computer

PERIODICAL: Hutnické listy, 1961, No. 4, pp. 259 - 263

TEXT: The increase of soaking pit output is the problem and
the author suggests a new control system for the thermal
process. The output of the soaking pit is the limiting factor
in rolling-mill operation. Though soaking pits are already
equipped with measuring and control instruments, their
utilisation is not satisfactory. The measuring instruments
provide information on fuel and air consumption, on temperatures
and pressures at some points of the plant, and the control
instruments (if operating at all) control some of the parameters
but none provide information on the utilisation of the thermal
process. Such information could well be obtained and used for
control if correlated, and the author suggests a computer which
calculates at suitable intervals the "instant deficiency of

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                           E197/E335

thermal balance", abbreviated "instant balance". The author
states that the method was successfully used by the Soviet
VNIlMT for open-hearth furnaces and describes tests carried
out for the purpose of adapting the method to soaking pits.
These tests and the subsequent description define the method
as consisting of calculating the amount of heat usefully trans-
ferred to the ingots by measuring at suitable intervals the heat
entering and leaving the soaking pit, deducting from the
difference the known losses of the pit. The thermal balance
so obtained is the heat usefully absorbed by the charge and
was expressed in local per m of ingot surface per hour.
The exploratory test was carried out on a soaking pit of the
type AMCO at VŽKG, operating at 765 ^{o}C, with a charge of nine
ingots of 4 tons each and a soaking period of 2.5 hours, the
thermal balance being calculated every 15 minutes. Detailed
numerical calculations are given, resulting in a useful heat

transfer of 42 000 kcal/m^{2}h at the beginning, dropping to

20 000 kcal/m^{2}h at the end. The corresponding figures for open-

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hearth furnaces are 250 000 and 40 000 $kcal/m^2h$, in which case
inaccuracies of up to $\pm$ 10% were found to be permissible.
The thermal efficiency of the soaking pit during the test
varied between 65 and 37%. It is proposed that the computer
carry out all calculations, record and indicate visually for the
benefit of operators how the heat transfer proceeds, as well
as compare at intervals the actual value of useful heat transfer
with the required value and adjust the inlet temperature, pressure
and mass flow accordingly. A schematic circuit of the computer
loop is given... Fig. 2 - circuit arrangement of the computer
for automatic control of the thermal conditions of soaking pits
based on the described principle. The meaning of the symbols
is as follows: t_p - gas temperature, ^{o}C; t_{pece} - furnace
temperature; t_v - air temperature; t_s - temperature of the
combustion products; B - hourly fuel consumption;
Q_v, Q_p, Q_s and Q_{ned} are, respectively - the heat values,
kcal/h, of the pre-heated air, the fuel gas, the combustion
products leaving the working space of the furnace and the heat
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losses by incomplete chemical combustion; q is the heat
absorbed per unit area of the ingot.
Further project studies are proceeding.
There are 2 tables, 2 figures and 10 non-Czech references.

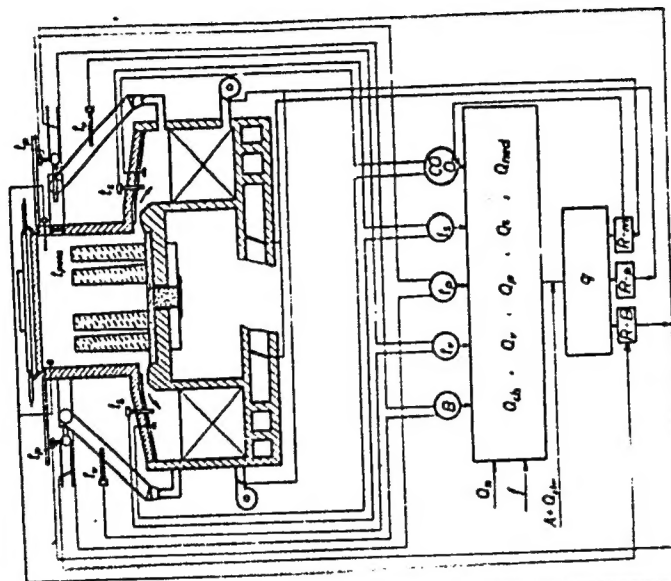ASSOCIATION: VŠB, Ostrava

SUBMITTED: November 11, 1960

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Fig. 2:

Obr. 2. Základní schéma zapojení počítacího stroje do automatické regulace tepelného řádu hlubinné pece na základě užitečně předaného tepla.

Card 5/5

KREMER, R.

"Calculation and design of noninertial furnaces" by M. A. Kuzmin.
Reviewed by R. Kremer. Hut listy 16 no.12:905-906 D '61.

(Furnaces)   (Kuzmin, M. A.)

KALOC, M.; KREMER, R.

"Metalurgical furnaces in the nonferrous metal metallurgy" by D. A.
Diomidovskij. Reviewed by M. Kaloc and R. Kremer. Hut listy 16 no.12:
906-907 D '61.

(Furnaces)   (Nonferrous metals)   (Diomidovskij, D. A.)